

That Which is Claimed Is:

A method for manufacturing individual surface acoustic wave (SAW) devices, the method comprising the steps of:

5 forming a unitary array of a non-conductive material having opposing first and second surfaces and plural spaced cavities extending into the array from the first surface, each cavity dimensioned to receive a SAW device therein;

10 forming a recess at each cavity from the first surface, each recess dimensioned to receive a lid within the recess;

15 providing at least two conductive paths from the interior of each cavity to a surface of the array;

20 inserting a SAW device into each of a plurality of the cavities, each SAW device having conductive means electrically contacting the conductive paths within the interior of the corresponding cavity after insertion;

25 sealing a lid in the recess over each inserted SAW device; and then separating the array into individual SAW devices along separation lines between adjacent cavities.

2. The method recited in Claim 1, further comprising the step of maintaining spacing between adjacent cavities during the separation step by applying tape means over the sealed lids and the first surface.

3. A surface acoustic wave (SAW) device manufactured according to the method recited in Claim 1.

4. A method for manufacturing surface acoustic wave (SAW) devices, the method comprising the steps of:

25 forming an array having opposing first and second surfaces and plural cavities extending from the first surface;

30 placing a SAW device within each cavity;

sealing a lid over each cavity; and thereafter

separating the array into individual SAW devices along separation lines between adjacent cavities while maintaining spacing between adjacent cavities.

5. A method for manufacturing microelectronic components, the method comprising the steps of:

forming a package array having opposing first and second surfaces, plural cavities extending from the first surface and a recess formed in the first surface at each cavity;

10 placing a microelectronic device within each cavity;

sealing a lid within each recess and over each cavity; and then

15 separating the package array into individual components along separation lines between adjacent cavities.

6. The method recited in Claim 5, wherein the lid sealing step comprises the steps of:

placing a lid over each cavity;

20 placing a sealing material about the periphery of each lid; and then

treating the package array-lids combination so as to seal each lid

with the sealing material.

7. The method recited in Claim 6, wherein the treating step comprises heating the package array-lids combination to effectuate sealing of the lids.

25 8. The method recited in Claim 7, wherein the sealing material comprises a solder.

9. The method recited in Claim 6, wherein the treating step comprises the step of curing the sealing material.

30 10. The method recited in Claim 9, wherein the sealing material comprises a resin.

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11. The method recited in Claim 5, further comprising the steps of: placing a continuous tape across the first surface and the sealed lids prior to the separating step;

5 undertaking the separating step from the second surface while maintaining continuity of the tape across the first surface; and then removing the individual components from the tape.

10 12. The method recited in Claim 5, further comprising the step of forming the package array from a non-conductive material.

15 13. The method recited in Claim 12, wherein the package array comprises a ceramic.

14. The method recited in Claim 5, wherein the microelectronic component comprises a surface acoustic wave (SAW) device.

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15. The method recited in Claim 5, wherein the lid sealing step comprises the step of hermetically sealing the cavity from ambient.

20 16. A microelectronic component manufactured according to the method recited in Claim 5.

25 17. A surface acoustic wave (SAW) device manufactured according to the method recited in Claim 14.

18. A method for manufacturing individual surface acoustic wave (SAW) devices, the method comprising the steps of:

30 forming an array of a non-conductive material having opposing first and second surfaces and plural spaced cavities extending into the array from the first surface, each cavity dimensioned to receive a SAW device therein;

forming a recess in the first surface at each cavity, the recess dimensioned to receive a corresponding lid;

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providing plural lids, each lid dimensioned to fit within a recess and overlap the periphery of the corresponding cavity;

placing sealing material about the periphery of each lid at least along the area of overlap;

treating the array-lids combination so as to seal each lid over the corresponding cavity with the sealing material; and then

separating the array into individual SAW devices along separation lines between adjacent cavities.

Sub 11 19. 10 An assembly for manufacturing individual surface acoustic wave (SAW) devices comprising:

15 a unitary array of a nonconductive material having opposing first and second surfaces and plural spaced cavities extending into the array from the first surface, a plurality of the cavities having a SAW device inserted therein;

a recess at each cavity extending from the first surface, each recess dimensioned to receive a lid within the recess;

means providing at least two electrically conductive paths from the SAW device within each cavity to an outer surface of the array;

20 a lid sealed in each recess over an inserted SAW device and the corresponding cavity; and

wherein the array may be separated into individual SAW devices along separation lines between adjacent cavities.

25 20. The assembly recited in Claim 19, wherein each recess has a dimension greater than that of the corresponding cavity in order to form an area of overlap, and wherein the lid sealed in each recess engages the area of overlap.

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